

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

TWO NEW CHINESE RATS.

BY A. BRAZIER HOWELL.



Among the collections of Chinese mammals secured by Arthur deC. Sowerby that are now in the U. S. National Museum are two undescribed races of rats. These may be known as follows:

Rattus rattus exiguus, subsp. nov.

Type.—Female adult, skin and skull no. 238,185 U. S. National Museum, from 70 miles southwest of Yenpingfu, Fukien, China, at an altitude of 500 feet: December 1, 1921. Collected by Arthur deC. Sowerby; original no. 1139.

Diagnosis.—A small, pale race with tail and foot relatively small, as compared with *alexandrinus* or *sladeni*, and hairs of the underparts showing a tendency to be palely plumbeous at base.

Skin.—The dorsal coloration is pale and rather gray, about as in paler specimens of *alexandrinus* from Europe, and the black tips of the guard hairs are very little in evidence. The upper lips as far as the nares are white. The dorsum of the hind feet are whitish and not appreciably dusky, although the forefeet show some sootiness. The hairs of the underparts always show more plumbeous at base than in *alexandrinus*, but this character varies considerably. In some specimens the hairs are solidly white over most of this area, those of the middle belly and chest alone being definitely plumbeous proximad. In others, practically all the ventral hairs are of this sort. The ear is apparently somewhat shorter than in *alexandrinus* or *sladeni*. The transition from the white of the belly to the dorsal coloration is quite gradual because of the strong intermixture of gray on the sides.

Skull.—The most characteristic feature of the skull, aside from the small size, is the great development and extension rostrad of the zygomatic laminae of the infraorbital foramina. The ridging is weaker than in *alexandrinus* and *sladeni*, and the supraorbital angle of the temporal ridge is but moderately indicated. On the average the occipital region is a bit less pinched in transversely than in either of the above races.

Measurements.—Collector's measurements of the type are: head and

body, 152; tail, 158; foot, 29; and ear, 20 mm. The skull measurements are: total length, 46.5; zygomatic width, 18; and maxillary tooth row, 6.4 mm.

Material.—Twenty specimens: 70 miles southwest of Yenpingfu, 14; Foochow, 1; Kulungsu Island, 1 spirit specimen. These three localities are in Fukien. From Kiangsu, there are 4 taken near Chinkiang.

Remarks.—*Rattus humiliatus* is apparently an exceedingly rare animal, and I suspect that individuals of the present new race have at times been wrongly identified as that form. They are not so dissimilar but that such a mistake could very easily be made without specimens of both in hand. *R. humiliatus*, however, is much more chestnut, the ears and tail are shorter, and the hind foot longer. In this animal the tail is apparently never longer than the head and body, as determined by the diagnosis of the describer and of Bonhote, while in *exiguus* the tail is never the shorter measurement. The skull of *humiliatus* is more robust with larger rostrum, shorter zygomatic lamina of the infraorbital foramen, and braincase through the interparietal broader. There need be no confusion with any other form of this species from eastern China. There is, though, some lingering question of its precise affinity. A *Rattus* of this same group has been recorded as rather rare in Fukien, namely, *sladeni*, which seems to be very close to *alexandrinus*. Either these rats have been introduced, as they so often are everywhere, or if they occur in the same locality as *exiguus*, then it would be logical to presume that the latter is a distinct species and not so closely related to the *R. rattus* group as its characters lead one to believe.

***Rattus humiliatus insolatus*, subsp. nov.**

Type.—Female adult, skin and skull no. 172,569 U. S. National Museum, from 12 miles south of Yenfanfu, Shensi, China, at an altitude of 4000 feet: January 12, 1909. Collected by Arthur deC. Sowerby; original no. 413.

Diagnosis.—A rather large and excessively pale member of this soft-furred, short-tailed group of rats.

Skin.—The ground color of the dorsum is close to the pinkish buff of Ridgway (1912), the guard hairs being very little darker and totally without black. The underparts are pale buffy, the bases of the hairs not showing plumbeous. The feet are pale, almost white. The tail is unusually well covered with short, bristly hairs, these being dark brown on the upper side and whitish below, and the scales of the tail are thus less apparent than in most members of the genus.

Skull.—Much as in the typical race, but apparently the nasals are relatively longer, the molariform teeth considerably heavier, and the general size of the skull is probably slightly greater.

Measurements.—Collector's measurements of the type are: head and body, 165; tail, 163; foot, 34; and ear, 21 mm. The total length of the skull is 41; zygomatic width, 19.4; interorbital width, 5.7; nasal length, 15.5; and maxillary tooth row, 7 mm.

Material.—Four specimens; 3 from Yenanku, and one from Yulinfu, Shensi.

Remarks.—The type is a winter example and the coloration seems to be entirely normal, without the appearance that a bleached, worn individual presents, and much what might be expected to occur in the desert type of country of northern Shensi. The two other Yenanku specimens are large juveniles, with the darker, woolly type of pelage characteristic of such an age. They are much darker than the type, due chiefly to the shortness of the distal ends of the hairs and the degree to which the plumbeous bases show through. The Yulinfu skin is that of an immature, and is also slightly darker than the type for the reason that it has a greater number of brown-tipped guard hairs. These differences with age are of precisely the same degree as occurs in the lighter type of *Rattus rattus alexandrinus* from the Mediterranean. Even if the type of *insolatus* should prove to be paler than the average for this region, it merits separation from the typical form of eastern China, with its definite reddish tint. The type is distinguishable from the latter at a glance as it is much the palest *Rattus* in the U. S. National Museum. *R. humiliatus celsus* is a very different looking animal, its paleness being due to the ashiness of the ground color and not to the absence of blackish tips to the plentiful guard hairs of the dorsum. In skulls of the latter the molar teeth are also heavy, as in *insolatus*, but the bullae are considerably smaller.